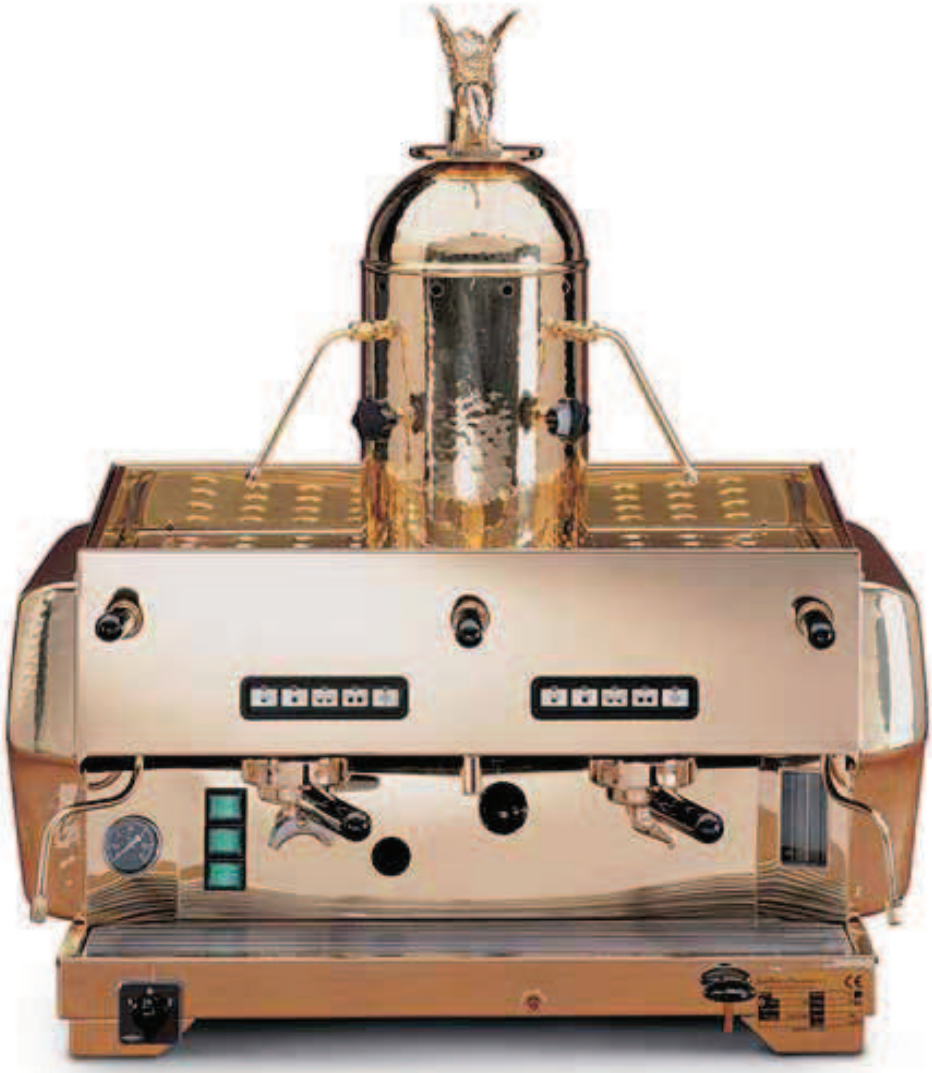
USE AND MAINTENANCE

Preziosa 80/12
Preziosa 80/16M
80/12 L
80/16M L



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1. Introduction

ATTENTION

• Before using the machine, carefully read all of the instructions contained in this machine.

1.1 Using the manual

• This manual contains all information required for the installation, use and maintenance of the coffee machine.

1.2 Warnings

• Do not operate the machine or carry out routine maintenance before reading this manual
• This machine is designed and built for serving espresso coffee, hot water (for the preparation of beverages and infusions) and steam (used to heat liquids). The use of the machine for any other than its intended purposes is considered to be improper and unauthorized. The manufacturer declines any liability for damage resulting from the improper use of the machine.
• The user must be a responsible adult, who is expected to comply with local safety rules and accepted common sense procedures.
• The machine must never be used with the fixed and/or mobile guards removed or with the safety devices cut off. The safety devices must absolutely never be removed or tampered with. The panels covering the machine must not be removed, as the machine contains live parts (there is the risk of electric shock).
• Strict compliance with the routine maintenance instructions of this manual is required for a safe and efficient operation of the appliance.
• In the event of problems or breakage of any component of the espresso coffee machine, contact an authorized service centre and insist on original spare parts from LA SAN MARCO SPA.
• If the power cord is damaged, it must be replaced by the manufacturer , the manufacturer's technical service or a similarly qualified person so as to prevent any sort of risk.
• The user must never perform any operation for which he/she is unauthorized or lacks training. Contact the manufacturer for any information, spare parts or accessories.

1.3 Starting the coffee machine

Ambient temperature:	5 ÷ 45°C (drain the water system in case of frost)
Water pressure:	80 ÷ 800 kPa (0.8 ÷ 8.0 bar)
Water hardness:	less than 5 °f H

2.Technical characteristics

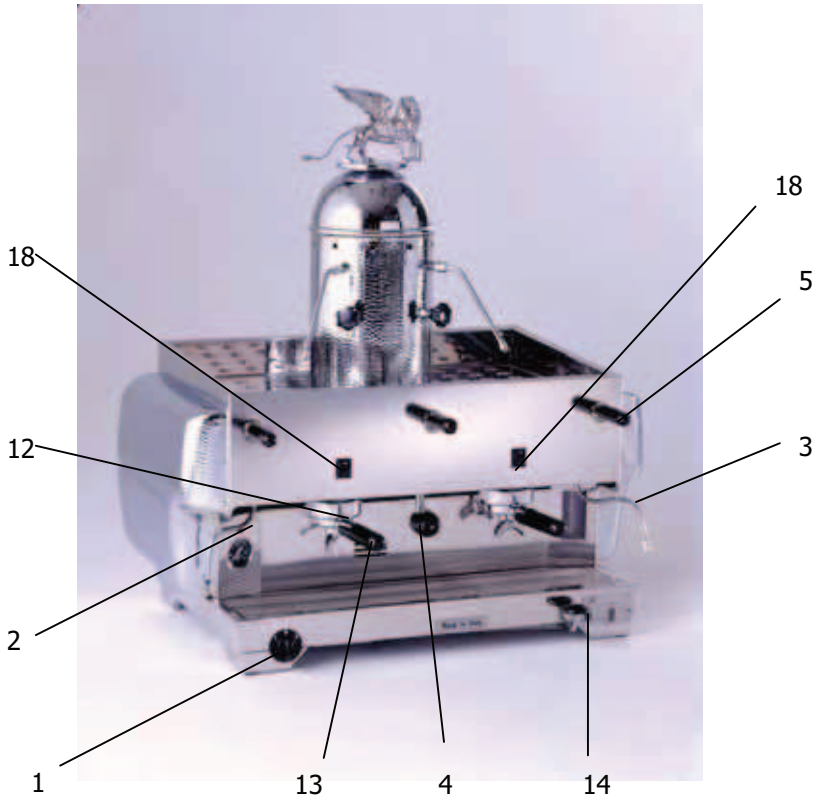
2.3 SEMIAUTOMATIC
2.4 AUTOMATIC

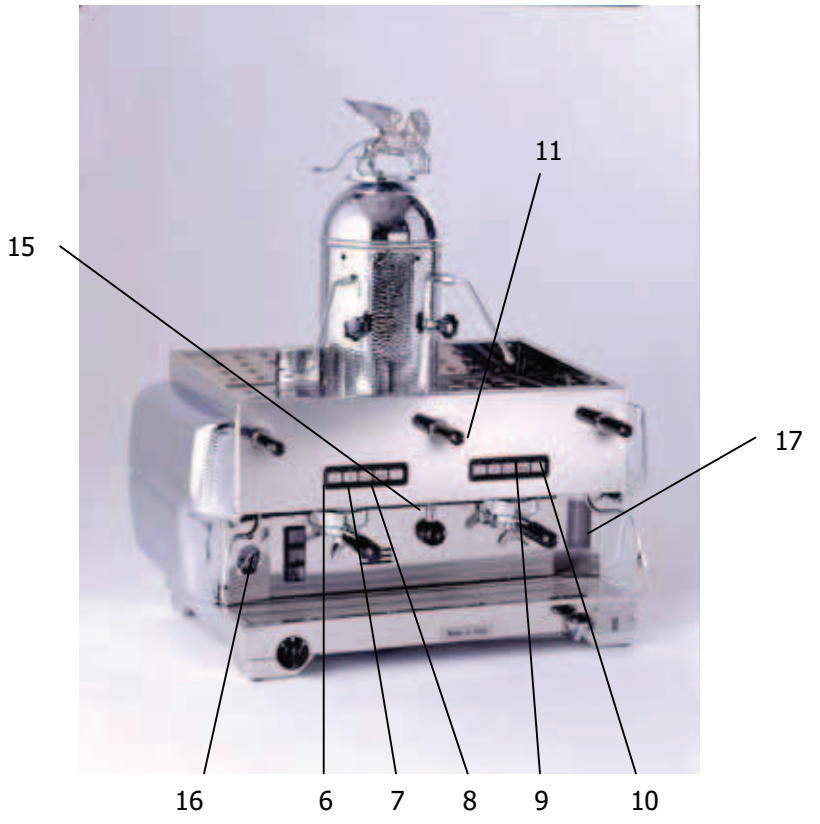
MODEL	N° GR.	BOILER CAPACITY (L)	POWER IMPUT (W)			WEIGHT (kg)	WIDTH (mm)	FUND (mm)	HEIGHT (mm)
			CONNECTION MAINS		MOTOR PUMP				
			Monofase	Trifase					
80-PREZIOSA 12 - 2	2	12	3000-4500	3000-4500	-	80	780	530	855
80-PREZIOSA 12 - 3	3	19	5500-7000	5500-7000	-	89	970	530	855
80-PREZIOSA 16M - 2	2	12	3000-4500	3000-4500	-	80	780	530	855
80-PREZIOSA 16M - 3	3	19	5500-7000	5500-7000	-	89	970	530	855

Standard:

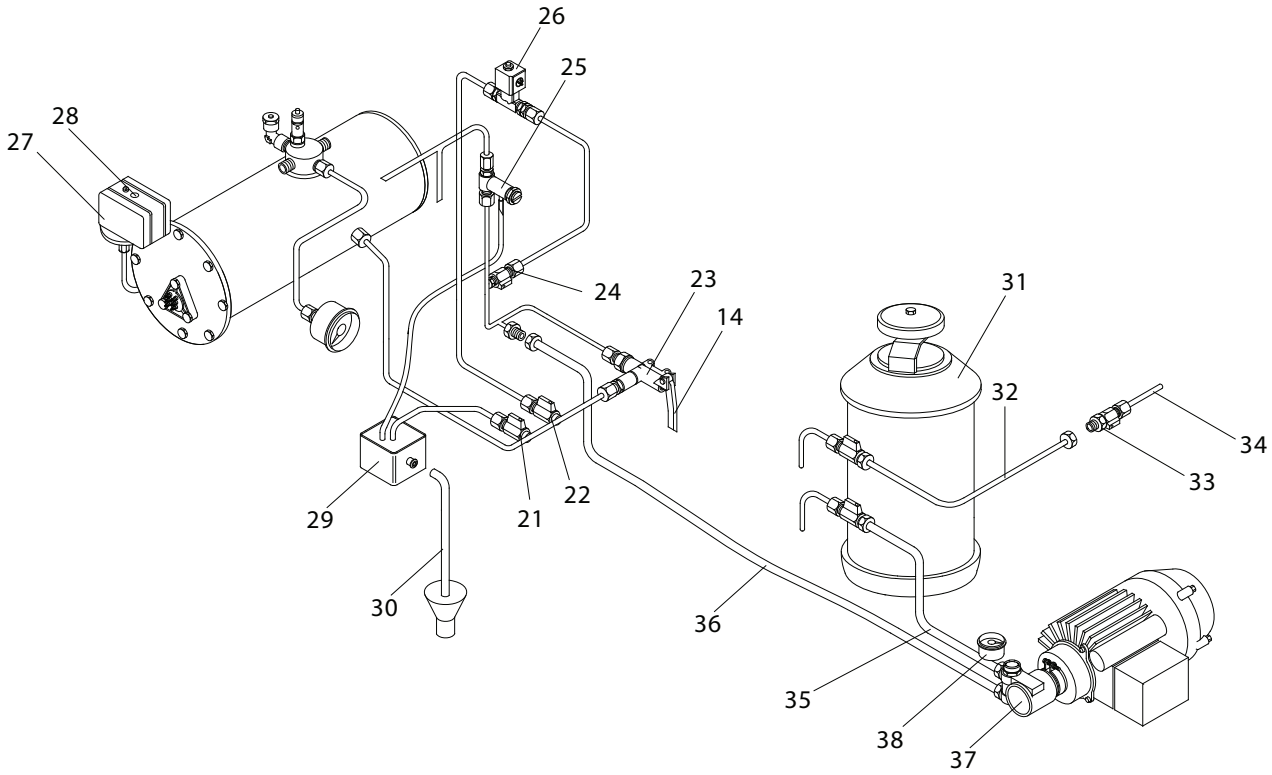
Hot water and steam delivery.
Steam powered coffee cup heater.
Voltages: 400 V - 3N threephase; 230 V - 3 threephase; 230 V monophase.
Automatic level control (automatic charging of water in boiler).
External pump (300 W).
Optional accessories:
Gas firing.
Water softener (manual or automatic).

3. Description of the machine





4. Diagram of water feed system



Key to illustrations

1. Main switch
2. Main switch indicator light
3. Steam spout
4. Cup warmer valve (steam)
5. Steam valve lever
6. Selection button for single strong coffee
7. Selection button for single normal coffee
8. Selection button for double strong coffee
9. Selection button for double normal coffee
10. Continuous servine push button
11. Hot water valve lever
12. Espresso coffee serving unit
13. Filter holding cup with handle
14. Manual boiler water filling lever
15. Hot water spout
16. Boiler pressure 3 bar
17. Visual level indicator
18. Manual servine push button
21. Boiler discharge valve
22. Automatic level control valve
23. Button valve
24. Automatic level control valve
25. Non return and safety valve
26. Automatic level solenoid
27. Pressure switch
28. Pressure switch setting screw
29. Grounds collecting tray
30. Drain pipe
31. Water softener
32. Water softener feeling pipe
33. Mains water supply tap
34. Mains water supply pipe
35. Pump feeding pipe
36. Machine feeling pipe
37. Motor pump
38. Pump pressure 20 bar

5. Installation

- The installation must be carried out by authorized La San Marco technical personnel.
- The coffee machine is delivered in a suitable packing. The packing contains the machine and its accessories, the user manual and the conformity declaration. After opening the packing, check the proper condition of the coffee machine and its components. In case of doubt, do not use the appliance, and contact La San Marco S.p.A.
- All of the packaging must be carefully conserved in case the machine needs to be transported in the future.
- The machine should be placed on a perfectly horizontal plane sufficiently sturdy to support the weight of the machine, with a sufficient clearance around it to dissipate the heat generated during its operation.
- Do not install the espresso coffee machine in places where cleaning is likely to be carried out with jets of water. Do not immerge the unit in water to clean it.
- For safety against hazards related to electrical currents, keep the machine away from sinks, tubs, aquariums, taps, and areas that are wet or where water may splash.
- The machine creates heat. Therefore it needs to be placed in a room that is sufficiently ventilated to ensure heat dissipation. Keep the machine away from sources of direct heat.
- Make sure that the voltage of the power socket does not differ from that indicated on the technical data and on the identification tag on the machine. If the voltage is different, do not connect the machine. This may be dangerous and may damage the unit.

5.1 Equipment provided

The machine packing contains the equipment kit, which includes the following items:
- FIlter cups with filter restraint ring
- Filters for filter cups (single and double doses)
- blind filter for filter cup
- spouts for filter cups (single and double doses)
- press for ground coffee
- braided 900mm with stainless steel tube for water connection (water supply - water softener)
- rubber drain hose with steel coil for water drain
- 3/8” nipples for hose connection to water supply tube
- cleaning brush for serving units
- Pump suction filter (on request).
- braided 600mm with stainless steel tube for water connection (pump inflow - water softener)
- braided 1600mm with stainless steel tube for water connection (pump outflow – coffee machine)

5.2 Water mains set-up

FEEDING LINE
Bring the water feeding tube (of at least 3/8” diameter) up to the machine and install an on-off valve (preferably of 3/8” ball type) that allows a rapid opening and closing operation.

DRAIN LINE
Provide an inspectable drainage pit on the floor connected with the sink drainage line, suitable for receiving the machine gravity drainage tube. The drain tube must be positioned so that the water ~ ows out freely, without possibility for the pipe to clog up during the operation.

5.3 Water softener (optional)

The water softener for softening the mains water can be manual or automatic, depending on customer’s request.

Before connecting the water softener to the coffee machine, the resins contained in it should be washed off as described in the user’s manual supplied with the appliance.

Note:
The water softener is considered an essential device to guarantee a proper operation of the espresso coffee machine. A water softening system should be provided in order to guarantee the efficiency, performance and duration of the components in the machine.

5.4 Installation of water systems

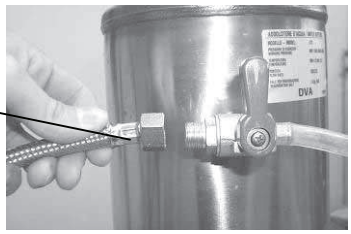


Figure 1

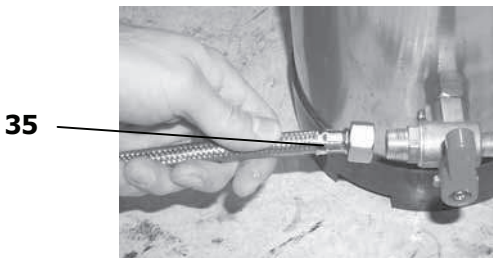


Figure 2

1. Use the braided 900 mm stainless–steel tube **32** to connect the water supply on-off valve to the water softener inflow valve **1** (figure 3).
2. Use the braided 600 mm stainless–steel tube **35** to connect the pump intake with the water softener valve (figure 3-4).
3. Use the braided 1600 mm stainless–steel tube **36** to connect the pump outflow with the nipple **5** of the water system on the machine (figure 4-5).

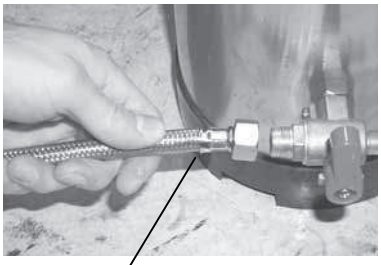


Figure 3

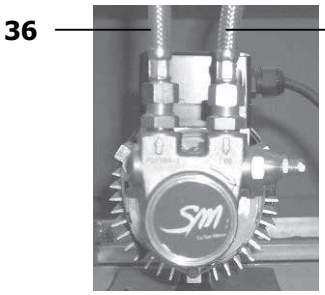


Figure 4

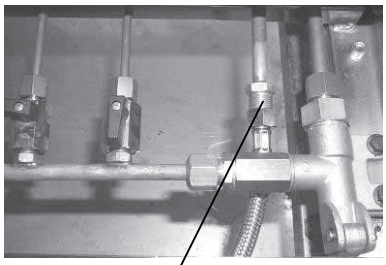


Figure 5

5.5 Drainage

Connect the drainage tube to the grounds collecting tray and to the water drainage system.

5.6 Electrical connections

Instructions for a proper electrical connection of the espresso coffee machine:

- Before connecting the unit to the electrical mains, make sure that the data on the data plate corresponds to the electrical mains.
- The tag is located on the left side of the machine (and can be accessed by removing the lower tray).
- The electrical system provided by the client must comply with current standards. The power socket must be equipped with a working earth connection. LA SAN MARCO SPA will not in any way be held liable if legal requirements are not met. An improper installation can cause injury or damage for which the manufacturer cannot be held liable.
- For the electrical connection, it is necessary to install an omnipolar main switch upstream of the power supply; this switch should be rated according to the electrical characteristics (power and voltage) shown on the rating tag. The omnipolar switch must disconnect the power supply with a contact gap of at least 3 mm.
- If it is necessary to use adapters, multiple plugs and extensions, only products meeting applicable safety standards must be used.
- To avoid any overheating of the power cable, unwind it completely.

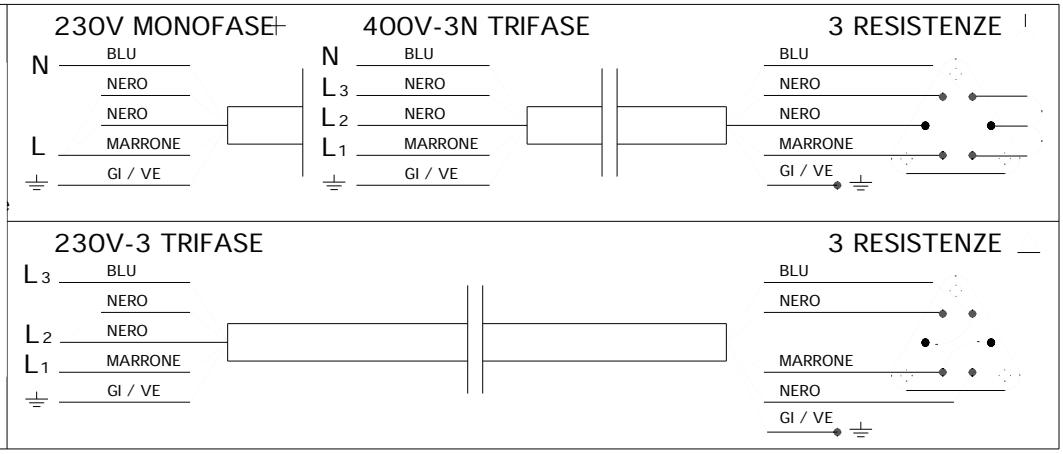
- The coffee machine must be started by qualified technical personnel approved by La San Marco.
- Once the electric and hydraulic connections are completed, the user is urged to start the espresso coffee machine with the following procedure in order to avoid damaging the appliance.

• Connect the power cord to the electrical mains as shown in the attached diagram:

4

Note:

*The power absorbed by electric heating elements can be reduced to 2/3 by eliminating one of the black wires.



6. Operating

6.1 Filling the boiler

Checking the position of the taps in the water system

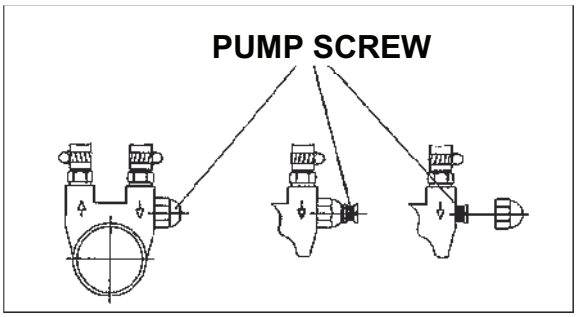
a) Remove the coffee ground collection tray with grille. Now, check for the following configuration :
   Boiler drain tap 21 closed
   Tap on the automatic level control 24 open
   Tap on the automatic level control 22 open
b) Install the coffee ground collection tray with grille
c) Open the main water fill tap 33
d) Open a steam delivery lever 5 to allow air to escape from the system as the boiler is filled.

Machine mod. 80– 12/16M - 2-3

a. Make sure that the main switch 1 is in position “zero”
b. Press and hold down the button 14 until the sight glass 17 is ¾ full.

6.2 Calibration of pump pressure

a. Once the boiler is filled, turn the main switch to position 2 (the heating elements start to heat the water).
b. Press the continuous-feeding push button 18 for the manual serving machines or the push button 10 for the electronic machines with automatic serving, so that the water flows out of the unit corresponding to the pressed button.
c. Read the water pressure value on the pressure gauge 38. The optimum pressure is 9 bar. The pressure is adjusted to the desired value by operating on the pump screw: the pressure is increased by turning clockwise; it is decreased by turning counter clockwise. As shown in the figure, there are three different cases for adjusting this screw, depending on the pump installed on the machine:
   - adjust only the screw
   - adjust the screw and lock it with the lock nut
   - unscrew the cap nut and adjust the screw.



6.3 Calibration of water pressure in the boiler

a. After having filled the boiler to the proper level, turn the main switch to position 2 (the heating elements will start to heat the water).
b. Open the lever-controlled steam valve 5 to vent the air during the heating phase. Close the valve as soon as the steam phase is reached. The steam pressure in the boiler can be read on the upper scale of the pressure gauge 18 from 0 to 3 bar. The pressure rises to the calibration value of the pressure switch 27 in the range from 0.9 to 1.1 bar. To vary the steam pressure, turn the screw 28 on the pressure switch 27. The pressure is decreased by turning the screw clockwise and it is increased by turning the screw counterclockwise. The screw is adjusted by means of a screwdriver inserted into the hole on the lid of the pressure switch. The pressure switch can be reached from the upper tray and grill.

6.4 Heating the water in the boiler

a. Rotate the main switch to position 2
b. Hold down a steam delivery lever 5 to allow air to escape from the system as the machine heats up. Release the lever as soon as steam escapes from the delivery pipe. Boiler pressure is indicated on the 0- to-3-bar scale on the pressure gauge 16 (suggested value: 0.9-1.2 bar).

6.5 Cup heater

The cup heater is used to increase heating of the upper cup support surface. Use the tap 4 to activate or de-activate the cup heater.

6.6 Steam delivery

This function is used to deliver steam from the boiler to heat liquids, or to foam milk for cappuccinos. Lower or raise the lever 5 to obtain the maximum flow of steam. Move the lever sideways to the left of right to obtain a reduced steam flow.

6.7 Hot water delivery

The lever-operated tap 11 is used to deliver hot water from the boiler for making tea, camomile herb tea, etc. This lever operates in the same way as the steam delivery lever.

6.8 Preparation of ground coffee

Make sure that the filter with the desired capacity has been installed in the filter holder. After the coffee has been loaded and pressed into the filter, the coffee level in the filter must just touch the spray head on the brewing unit. To check for correct coffee level, install the full filter holder onto the brewing unit and then remove the holder. Now, look at the surface of the coffee: if the level is correct, the coffee will contain the imprint of the central mounting screw on the spray head of the brewing unit.

6.9 Brewing coffee

Semiautomatic models: 80–Preziosa 12
Once the filter holder has been installed onto the machine, simply press the switch 18 to actuate the pump and solenoid valve. When the coffee in the cup has reached the desired level, move the switch.

Automatic models: 80–Preziosa 16M
Once the filter holder has been installed onto the machine, press one of the five brewing buttons. The first two buttons 6 and 7 are used to select the two pre-programmed single portions of coffee. The second two buttons 8 and 9 are used to select the two pre-programmed double portions of coffee. The fifth button 10 immediately shuts down brewing if pressed during a coffee brewing cycle. Button 10 can also be used to brew the desired quantity of coffee manually: press this button to start brewing, and presse the button a second time to stop brewing when the desired quantity of coffee has been obtained.

6.10 Draining the boiler

If the boiler must be emptied, shut off the power to the machine by moving the main switch 1 to the “zero” position. On gas-fired machines, extinguish the flame by closing the gas feed valve. Open the drain tap 21 until the boiler has been completely drained.
Important: be sure to close the tap before refilling the boiler.

6.11 Automatic operation - programming the coffee brewing cycles

Automatic models: 80–Preziosa 16M

a. *Entering the programming mode*
Set the main switch 1 on the machine to position “zero” (machine switched off).
Hold down the fifth button 10 on the first brewing unit. Now, rotate the main switch 1 to position 1 (machine switched on). After a few seconds, release the button 10. The indicator led for the button will now begin to flash, as will the same led on all the other brewing units. The machine is now ready for programming.

b. *Programming*
To program the four portions on brewing unit I, proceed as follows: place the single-portion filter into the single-portion filter holder. Use the coffee dispenser to dispense a single portion of coffee into the filter. Mount the filter holder onto brewing unit I.
Place an espresso cup under the spout on the filter holder.
Press the first button 6 whose portion is to be programmed. When the coffee in the cup reaches the desired level, press the fifth button 10 to stop brewing.
Follow the same procedure to program the other portions on each group. Once the four portions on brewing unit I have been programmed as desired, the relative data can be transferred to the other brewing units by pressing the fifth button 10 on each unit. When each button 10 is pressed, the indicator led for the button will stop flashing and remain steadily lit. This shows that the data on brewing unit I has been transferred successfully.

c. *Exiting from the programming mode*
After you have finished programming the machine, press the button 10 (with flashing led) on brewing unit I and all the leds will turn off. The programmed quantity of coffee will now be delivered when an automatic brewing button is pressed.

6.12 Important information on daily maintenance

To keep your espresso machine in top operating condition and obtain maximum performance, the following cleaning operations must be performed on the brewing units at the end of the work day:

a. Install the blank filter (without holes) into the filter holder. This filter is provided with the machine.
b. Install the filter holder with blank filter onto the brewing unit to be cleaned but do not tighten the holder, thus allowing water to overflow at the sides. Push the continuous brewing button and let the water run for about a minute. This will clean the spray head and the water delivery pipe in the unit.
c. Tighten the filter holder onto the brewing unit so that water can no longer overflow at the sides. Manually run the unit once again for around 5 seconds, and then shut the unit down. Repeat this operation 5 or 6 times to clean the solenoid valve and the drain pipe on the unit.

Note: To clean the brewing units more thoroughly, the blank filter can be filled with one of the special detergents that are available on the market.

6.13 Alarms

Led on the first button of pushbutton array indicates a malfunction on the flow meter.
A flashing Led on the second button of all the pushbutton arrays indicates a malfunction on the automatic boiler refill A flashing system (jammed solenoid valve, insufficient water from the main water system, etc.). After 1 ’30”, the pump motor will shut down.
Note: If the machine shuts down as described above, call your local service technician.

- Do not use water sprays, steam or similar cleaning methods. Before cleaning or maintenance operations, DISCONNECT THE CABLE IF POSSIBLE; OTHERWISE, SHUT OFF THE OMNIPOLAR MASTER SWITCH INSTALLED AHEAD OF THE MACHINE.
- If power cable is damaged, it must be replaced with the specially prepared, original equipment replacement part which conforms to safety regulations.
- Special maintenance, parts replacement, long-term shutdown and displanting operations must be performed by LA SAN MARCO service personnel.

7. Instructions for authorized installer gas fired boiler (optional)

Read the instructions before installing and using the appliance.

This appliance can only be installed and used in permanently ventilated places according to UNI-CIG 7129 and UNI-CIG 7131 Standards.

7.1 Connection to gas supply

Position the appliance as described in the Use and Maintenance Manual, remove the control panel as described in the same handbook, and connect the appliance to the gas supply mains, or LPG bottle (G30/G31), using rigid metal pipes or flexible metal tubes according to UNI-CIG 9891 Standards. Check that the appliance is prearranged for the type of gas actually being used; the corresponding setting is shown on the settings tag.
If the appliance is prearranged for a different type of gas, change the arrangement as described in the paragraph “Changing the calibration”.
The gas infeed, consisting of an on-off valve (51), includes a G 1/8” threaded connection (thread is not gastight) according to ISO 228-1 Standard.
If using rigid metal pipes for connection to the gas supply, place an appropriate fitting between the valve and the rigid metal pipe, which should be provided with a G 1/8” female thread (thread is not gas-tight) according to ISO 228-1 Standard.
If using flexible metal tubes for connection to the gas supply, interpose an appropriate G 1/2” female nipple (gas-tight thread) according to ISO 7-1 Standard and a G 1/2” male nipple (thread is not gas-tight) according to ISO 228-1 Standard; interpose a suitable gas-tight gasket.
When the connection is completed, open the gas flow upstream of the appliance and, using a soapy solution (never a free flame), check the perfect tightness of the connection.

7.2 Venting the combustion fumes

In relation to the venting of the combustion fumes, the appliance is of Type A1: i.e., it draws in the air required for combustion from the room and discharges the fumes in the same environment.
Place particular attention to the volume of the room where the appliance is to be installed: this should be at least 12 m^3.
If the room has a smaller volume, it will be necessary to install the appliance directly under a suction hood, and also to provide a combustion air intake with a free-flow cross section of al least 100 cm^2.

7.3 Ignition

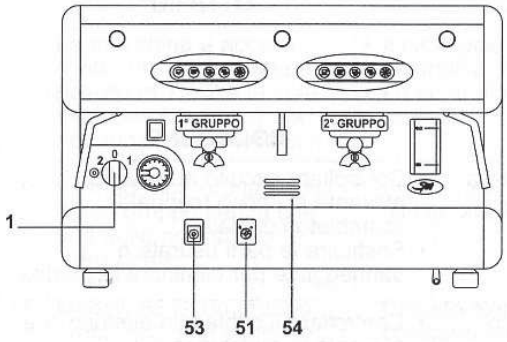
Press and turn the gas valve knob (51) counterclockwise to the position of the flame symbol, as shown in Fig. B. While holding the knob pressed, push a few times the burner ignition button, marked with the star symbol (53) to ignite the burner (piezoelectric ignition).
When the flame is lit, check through the relative hole (54), while keeping the gas knob pressed for 5-10 seconds. After this period, if the flame does not remain lit, repeat the ignition operation again.

7.4 Changing the calibration

The appliance is prearranged to operate with the gas indicated in the relative settings tag attached to the appliance. The information regarding the air setting, injector, rated and reduced heat flow are shown in Tables 1 and 2. The data that correspond with each model are indicated by the next-to-last character of the code for the relative model. For example, the model code shown on the tag for the gas part characteristic 80-16M-3-G shows number 3 in the next-to-last digit.
In this case, refer to the data shown in Tables 1 and 2, respectively, in the column headed “3 Units”. If you wish to change the calibration of the appliance, proceed as follows:
Unscrew the primary air adjusting ring nut (55 - Fig. C) to expose the nozzle (56). Using the relative wrench, unscrew the nozzle (56) and replace it with the proper one indicated in Table 2, checking that the diameter marked on the same nozzle corresponds to the right diameter.

Screw on the new nozzle (56), and position the primary air adjusting ring nut (55 - Fig. C) according to the indications of Table 1, using a gauge or equivalent instrument to set the distance “L”, and tighten the screw provided to fasten the nozzle.

Turn the main switch (1) to position 1, so as to connect a single heating element (50% of the boiler’s electric power for single-phase heating element with 2 elements and 1/3 of power for heating elements with 3 elements with three-phase connection), and ignite the burner as in the procedure described above. When the water contained in the boiler reaches the preset temperature, the gas flow regulator will automatically decrease the flow to the value corresponding to the reduced rated heat flow. At this point, turn the flow regulation screw (58) so as to have a steady flame licking the sensitive thermocouple element (52), and turn the screw (57) to obtain the maximum desired pressure value in the boiler.



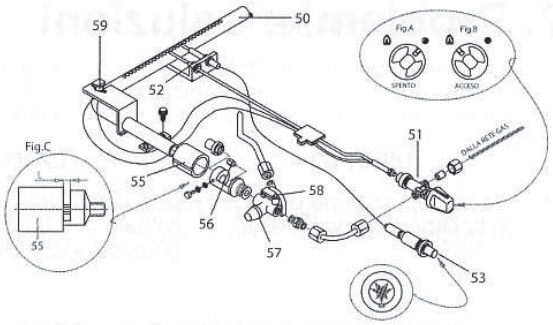


Tabella 1 - Regolazione aria primaria (Fig. C)			
Gas	**2 Gruppi**	**3 Gruppi**	**4 Gruppi**
GPL (G30/G31)	L = 8 mm	L = 10 mm	L = 12 mm
Metano (G20)	L = 4 mm	L = 4 mm	L = 4 mm
	Qn = Portata termica nominale Qnr = Portata termica nominale ridotta		

Tabella 2 - Diametro ugelli in 100/mm			
Gas	**2 Gruppi**	**3 Gruppi**	**4 Gruppi**
GPL (G30/G31)	40	55	65
Metano (G20)	60X	81X	90X
Qn (kW)	0,75	1,45	1,9
Qnr (kW)	N.A.	1,0	1,3

After having verified the proper operation, replace the settings tag on the appliance with the one for the new type of gas that is provided with the standard kit containing the newly installed gas nozzle. Safety devices on appliance (manually reset).

The appliance is provided with two safety devices that shut off the gas flow if the flame accidentally goes out.
1 - Thermocouple (52): The thermocouple operates on the valve (51), whose probe (52) must be licked by the flame from the burner (50). If the probe is not enveloped by the flame, the gas flow will be automatically shut off.
2 - Thermostat (59): The thermostat, placed in contact with the boiler, operates on the valve (51); when the thermostat sensor on the boiler reads 140˚C, the gas flow will be automatically shut off.

The burner can be re-ignited with the procedure described above only after the boiler body has cooled to 110˚C. Following the activation of one of the two safety devices, try re-igniting the burner with the procedure already described.

If the malfunction persists, and the burner consequently continues to go off, contact the nearest authorized Service outlet, which will provide to eliminate the cause of the malfunction.

8. Information for users in the european community

Pursuant to European Directive 2002/96/EC on electrical waste (WEEE), users in the European community are advised of the following.

- *The symbol with the crossed-out dustbin on the appliance or its packaging indicates that at the end of the product's life cycle, it must be collected separately from other waste.*
- *Suitable separate collection of the equipment for subsequent recycling, treatment and disposal contributes to preventing possible negative consequences for the environment and health, and favours the recycling of materials that the unit is made of.*
- *In accordance with European Directive 2002/96/EC, abusive disposal of the product by the user will result in application of penalties as set forth by local law.*

9. Guarantee

The warranty becomes void if:
- The instructions in this manual are not complied with.
- The scheduled maintenance and repairs are carried out by unauthorized personnel.
- The machine is used for any other than its intended purposes.
- The original parts are replaced with parts from different manufacturers.
- The warranty does not cover damage caused by neglect, use and installation not in compliance with the recommendations of this manual, improper operation, abuse, lightning and atmospheric phenomena, over voltage, over current, or insufficient or irregular power supply.

10. Declaration of Conformity CE

The manufacturer:

La San Marco S.p.A.

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declares under its own responsibility that the espresso coffee machine described in this manual and identi~ ed by the data on the tag located on the machine, is compliant with directives 98/37/EC, 73/23/EC, 89/336/EEC, 89/109/EEC. For verification of compliance with said directives, the following harmonized standards have been applied: EN 121 00-1, EN 121 00-2, EN 60335-1, EN 60335-2-75

Gradisca d'Isonzo, June 2007

Managing director

Mr Roberto Marri

11. Problem solving

	PROBLEM	CAUSE	SOLUTION
1.	The boiler is full of water and the water flows out of the safety valve.	• One of the outflow lines from the boiler or from a circuit of the unit has a leak.	• Check the autolevel circuit, the manual charging button, and the boiler heat exchangers. • Replace worn or damaged parts to eliminate the leak.
2.	The safety valve trips in and vents the steam.	• Malfunction of electrical system (the electrical heating element is always connected). • Pressure increase in the boiler (the safety valve trips in at 1.9-2.5 bar).	• Check the wiring that feeds the heat-ing element and the pressure switch. • In the machines with electronic temperature control, check the proper operation of the electronic control unit, the triac, the level probe, and the elettrical wiring.
3.	The machine was started properly but the water in the boiler does not warm up.	• The electric heating element is defective or is not connected.	• Check if the heating element is con-nected to the power supply. • Check if the heating element safety thermostat has tripped in and check its proper operation. • In the machines with electronic temperature control, check the proper operation of the electronic control unit, the triac, the level probe, and the elettrical wiring
4.	There is no water flowing from a serving unit.	• Coffee ground too fine or excessive quantity for type of filter used. • Clogged water circuit. • Defective solenoid.	• Adjust the grinding coarseness and/or the quantity of ground coffee. • Check that the injector, the upper circulation tube, the spray nozzle and the solenoid of the unit are not clogged. • In the machines with electronic metering, check the displacement meter and its valves. • Check the solenoid of the unit, its wiring and the fuse in the electronic control unit.
5.	The programmed servings of espresso coffee are not constant or vary on the dif- ferent units.	• Abnormal operation of the electronic control unit or of the displacement counters. • Leak from serving unit solenoid valve.	• Program the serving quantities separately on each serving unit. If the problem persists, replace the displacement meter of the serving unit affected. • Replace the solenoid valve of the serving unit.
6.	It is not possible to pro- gram the serving quantities on unit 1 and to copy them on the other units.	• Abnormal operation or defective displacement meter of unit 1.	• Check the control unit-displacement meters electrical wiring. • Replace the displacement meter.
7.	Displacement meters alarm.	• Displacement meters jammed or defective. • Defective wiring.	• Replace the displacement meter. • Check the wiring and its connections, the control unit and the fuses.
8.	Autolevel alarm.	• Lack of water in the autolevel circuit. • Main water supply valve closed. • Faulty autolevel solenoid.	• Check the hydraulic circuit of the autolevel. • Check if the on-off valve on the water supply is open. • Replace the autolevel solenoid.
9.	The machine is switched on (the main switch is in position 1 or 2 and the signal light is lit) but the electronic control is out of order.	• The electric wiring of the electronic control unit is defective. • The electronic control unit is defective.	• Check the electrical wiring, the electronic control unit and its components. • Replace the electronic control unit.

	PROBLEM	CAUSE	SOLUTION
10.	The machine feeds water from one serving unit although the serving has not been selected.	• Solenoid and/or pump fed continuously.	• Short-circuited control unit relay. • Replace the electronic control unit.
11.	85 S models: one unit serves water continuously.	• Electric circuit of unit improp- erly connected.	• Check the connection and correct it (see wiring diagram).
12.	The steamer discharges only small quantities of steam or water droplets.	• Worn gasket on tap.	• Replace the gasket.
13.	Small drops flow out of the water tap.	• Worn gasket on tap. • Leak from solenoid.	• Replace the gasket. • Check the solenoid and if necessary replace it.
14.	The unit emits a whistle after serving the coffee.	• Faulty operation of expansion valve. • High pump pressure.	• Check the expansion valve and if necessary replace it. Calibrate the valve at 12 bar. • Check the pump operating pressure. Calibrate the pump at 9 bar.
15.	The filter cup comes off the serving unit.	• Worn gasket under the filter cup.	• Replace the gasket. • Clean the serving unit and the filter cup.
16.	When coffee is being served, some of it drips out of the edge of the filter cup.	• Worn gasket under the filter cup.	• Replace the gasket. • Clean the serving unit and the filter cup.
17.	Water leaking from the drain of the serving unit solenoid.	• Malfunctioning unit solenoid. • Water leaking from unit cooling system.	• Check the unit solenoid. • Check the plunger on the solenoid and clean the solenoid. • Replace the solenoid. • Check the cooling tube and the seal rings inside the unit.
18.	Light cream (the coffee flows out of the spout rapidly).	a. Coarse grinding. b. Low pressing pressure. c. Small quantity of ground coffee. d. Water temperature below 90°C. e. Pump pressure above 9 bar. a. Sprinkler filter on unit clogged. g. Filter holes widened (filter cup).	a. Finer grinding. b. Increase the pressure. c. Increase the quantity of ground coffee. d. Increase the pressure in the boiler. e. Decrease the pump pressure. a. Check and clean with blind filter or replace. g. Check and replace the filter.
19.	Dark cream (the coffee drips out of the spout).	a. Fine grinding. b. High pressing pressure. c. Large quantity of ground coffee. d. High percolation water temperature. e. Pump pressure below 9 bar. a. Sprinkler filter on unit clogged. g. Filter holes clogged (filter cup).	a. Coarser grinding. b. Reduce the pressure. c. Decrease the quantity of ground coffee. d. Decrease the boiler pressure. e. Increase the pump pressure. a. Check and clean with blind filter or replace. g. Check and replace the filter.
20.	Presence of grounds in coffee cup.	a. Coffee ground too fine. b. Worn grinders in grinder-dis- penser unit. c. Pump pressure above 9 bar. d. Sprinkler filter on unit clogged. e. Filter holes widened (filter cup).	a. Coarser grinding. b. Replace the grinders. c. Decrease the pump pressure. d. Check and clean with blind filter or replace. e. Check and replace filter.
21.	Coffee with too little cream in cup (spurts out of spout).	• Sprinkler filter on unit clogged.	• Check and clean with blind filter or replace.

	PROBLEM	CAUSE	SOLUTION
22.	The cream in the cup is too thin (it disappears after a few seconds).	• Coffee extraction takes a long time due to clogged filter. • Coffee extraction too fast due to clogged sprinkler filter. • Water temperature too high.	• Clean or replace the filter. • Clean or replace the sprinkler filter. • Lower the temperature in the boiler.
23.	Presence of depressions in the coffee grounds (looking inside the filter cup).	• Sprinkler filter partly clogged. • Low amount of ground coffee for the fiter used.	• Clean or replace the sprinkler filter. • Adjust the amount of ground coffee.

Note: If it is not possible to solve the problem as described above, or if other malfunctions develop, contact the authorized La San Marco service centre.